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friend, the Rev. LAURENTINE HAMILTON, and the name was thereupon adopted. Professor BREWER is not sure as to whether the suggestion came from him or from Mr. HOFFMAN.

W. W. CAMPBELL.

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THE MEASUREMENT AND REDUCTION OF THE PHOTOGRAPHS OF  
EROS MADE WITH THE CROSSLEY REFLECTOR IN 1900.

The measurement and reduction of the photographs of *Eros* which were taken in 1900, with the Crossley Reflector, for the determination of the solar parallax, has been in progress at Mount Hamilton since December 1st, 1905. The work is being done by Miss FREDRICA CHASE, formerly of Vassar College Observatory and Miss ADELAIDE M. HOBE, formerly of the Students' Observatory of the University of California, under a grant from the Carnegie Institution.

Experimental measurements and reductions and the preparation of reduction tables for the entire work consumed about three months' time. The definitive measurement is now in progress and the measures of 150 plates are ready for reduction as soon as the places of the comparison stars are available.

The most serious difficulty in the reduction of this work was to obtain sufficiently accurate places of enough stars within the limited field of the Crossley plates. Through the kindness of Professor HINKS of the Cambridge Observatory, enough additional stars are being included in the catalogue, which he is forming for his own and other similar work, to satisfy this fundamental need completely.

May 19th, 1906.

C. D. PERRINE.

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NOTE ON A CONVENIENT METHOD FOR COMPUTING, FROM ELEMENTS,  
THE DAILY MOTION IN GEOCENTRIC RIGHT  
ASCENSION AND DECLINATION.

In Popular Astronomy for May, 1906, Professor HERBERT L. RICE, of the Naval Observatory gives a method of computing the daily motion in geocentric right ascension for an asteroid whose elements are given. After reading this it occurred to the writer to develop other formulae for determining this daily motion, based upon the methods used in LEUSCHNER'S "Short Method" for determining orbits. The same example that Professor RICE used to illustrate his method was used and shows that only about two-thirds as much computing is necessary as in his method.

As the daily motion in both right ascension and declination

are very useful in interpolating positions from an ephemeris, the writer suggests that hereafter such data be published along with an ephemeris. The extra computing necessary to obtain these for a four-date ephemeris would involve but very little time, not more than fifteen or twenty minutes. With this end in view, the formulæ for obtaining the daily motion in geocentric declination and in  $\log \rho$  have also been derived. The details of these developments have been forwarded to Popular Astronomy for publication.

June 11th, 1906.

RUSSELL TRACY CRAWFORD.

### THREE NEW RAPID BINARIES.

It is to be expected that many of the close double stars discovered at the Lick Observatory within the last few years, will prove to belong to the class of short period binary systems. In two instances, A 88 and A 417, this has already been demonstrated, my published measures showing a motion of  $128''$  in five years for the former star, and of  $33''$  in three years for the latter.

Measures made within the last few months show that Hu 1176, A 570, and A 691, also belong to this class. My recent measures and the discovery positions of these stars are as follows:

#### Hu 1176 = $\epsilon$ *Herculis*.

1905.32	111. <sup>o</sup> 7	0."12	2 <sup>n</sup>	HUSSEY.
1906.33	90. 4	0. 14	3 <sup>n</sup>	AITKEN.

#### A 570.

1903.40	198. <sup>o</sup> 6	0."20	4 <sup>n</sup>	AITKEN.
1906.32	172. 6	0. 23	2	"

#### A 691.

1904.48	226. <sup>o</sup> 1	0."11	3 <sup>n</sup>	AITKEN.
1906.35	204. 2	0. 10	1	"

May, 1906.

R. G. AITKEN.

### THE DUPLICITY OF THE PRINCIPAL COMPONENT OF $\Sigma$ 2348.

An examination with the 36-inch telescope on the night of May 17, 1906, showed that the principal component of the wide pair  $\Sigma$ 2348 was itself, a very close double star. My measure